## CLAIMS

1. Pyridinylpyrazolopyrimidinone derivative represented by the following formula (IA) or (IB):

wherein:

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 $R^1$  is substituted or unsubsituted  $C_3$ - $C_8$  cycloalkyl group or tert-butyl group;

 $R^2$  is a hydrogen atom or  $C_1$ - $C_3$  alkyl group;

 $R^3$  is a group:  $-NR^5R^6$ ,  $-C(=0)R^7$  or  $-S(0)_{0-2}R^8$ ;

 $R^4$  is a hydrogen atom or  $C_1$ - $C_3$  alkoxyl group which is unsubstituted or substituted by one or more fluorine atom(s);

 $R^5$  and  $R^6$  are, same or different from each other, a hydrogen atom, substituted or unsubsituted  $C_1$ - $C_6$  alkyl group, substituted or unsubsituted acyl group, substituted or unsubsituted heterocycloalkyl group, and substituted or unsubsituted heterocycloalkyl ring is formed with nitrogen atom which is binding  $R^5$  and  $R^6$ ;

 $R^7$  is a group:  $-OR^9$  or  $-NR^5R^6$ ;

 $R^8$  is a hydrogen atom, a halogen atom, a group:  $-NR^5R^6$ , substituted or unsubsituted  $C_1-C_6$  alkyl group, or substituted or unsubsituted aryl group;

 $\mbox{R}^{9}$  is a hydrogen atom or substituted or unsubsituted  $\mbox{C}_{1}\mbox{-}\mbox{C}_{6}$  alkyl group;

or pharmaceutically acceptable salts or solvates thereof.

- 2. The compound represented by the formula (IA) according to claim 1.
  - 3. The compound represented by the formula (IB) according to claim 1.
    - 4. The compound according to claim 1, 2 or 3, in which  $R^1$  is

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cyclohexyl group or cycloheptyl group.

- 5. The compound according to any one of claims 1 to 4, in which  ${\ensuremath{\mathsf{R}}}^2$  is methyl group.
- 6. The compound according to any one of claims 1 to 5, in which  $R^4$  is methoxy or ethoxy group.
  - 7. The compound according to any one of claims 1 to 6, in which  $R^3$  is a group  $-NR^5R^6$ .
  - 8. A pharmaceutical composition containing a compound according to any one of claims 1 to 7, or pharmaceutically acceptable salts or solvates thereof as active ingredient.
  - 9. A PDE 7 inhibitor containing a compound according to any one of claims 1 to 7, or pharmaceutically acceptable salts or solvates thereof as active ingredient.

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